

5th, at dusk, I watched a female *Acidalia bisetata* ovipositing. It settled on the underside of an apple leaf, on the midrib, towards the base of the leaf, and laid one ovum, attaching it to the long down on the rib. The egg hatched on August 12th. At the end of June *Acidalia subsericeata* was captured at dusk; a species new to us. *Melanippe hastata* was bred and also netted in June. It is rather fond of the flowers of *Euphorbia amygdaloides* and wild hyacinth. Later on in the season a few of the larvæ were obtained from birch. *M. subtristata*, *M. unangulata*, *M. procellata*, *Melanthia albicillata*, and *M. rubiginata* were all scarce, though usually common. *Anticlea badiata* and *A. nigrofasciaria* were met with in the spring, and both were attracted by light; the former also visiting the willow. *Coremia propugnata*, *C. unidentaria*, and *Larentia didymata* swarmed as usual, and *C. ferrugata* and *L. pectinataria* seen in fewer numbers. *Asthenes sylvata*, *A. blomeri*, and *Minoa euphorbiata* were all much scarcer than usual, and only one or two specimens of *A. luteata*, *Eupisteria heparata*, and *Emmelesia decolorata* noticed. *Cidaria miata*, *C. corylata*, *C. picata*, *C. russata*, *C. immanata*, *C. suffumata*, *C. silacea*, *C. prunata*, *C. fulvata*, *C. populata*, and *C. testata* were netted at dusk or beaten. *Scotosia dubitata* was very common at dusk, which, I am glad to say, *Camptogramma bilineata* was not, nor does it ever swarm here as it does in Sussex. *Hyppipetes sordidata*, with plenty of the smoky varieties, occurred freely, and one lovely aberration, similar to the one depicted on pl. 369, fig. 1b, in Barrett's *Lepidoptera of the British Islands*, but even more striking, was netted at dusk on August 20th, in perfect condition. *Cheimatobia boreata* usually turns up at light in November and December, but not a single specimen made its appearance last year. *Lobophora hexapterata* was also absent, but *L. lobulata* was not uncommon on tree-trunks at the end of March and in April, and was also bred from willow. Several *Chesias spartiata* were taken on the windows, attracted by light, and one *C. obliquaria* bred from a larva found in 1904, and so had passed two winters as a pupa. *Anaitis playiata* turned up sparingly in August and September, and *Eubolia limitata* at the end of July. *Eupithecia pulchellata* was bred from larvæ obtained in foxglove flowers, and *E. castigata* from one feeding in the seed-vessels of sweet-william. *E. abbreviata* was common in a wood on April 6th, and very variable. Other "pugs" taken or noticed were *E. subfulvata*, *E. vulgata*, *E. absynthiata*, *E. assimilata*, and *E. rectangulata*: but *E. lariciata* and *E. isogrammata*, though taken rather commonly in 1905, were not met with at all.

Notes on Egyptian and Syrian Butterflies.

By PHILIP P. GRAVES.

PAPILIO MACHAON.—*Syria*: May 17th, 1905, flying with *Iphiclides podalirius* near Aleih. July 9th, 1904, Dog River, near Beyrout. A few seen July 10th-15th, at Ain Zahalta. This species does not appear to occur in Egypt.

PIERIS BRASSICÆ.—*Syria*: Common at Beyrout, end of July, 1904, and just appearing at that time on the Lebanon mountains. Jaffa, May 9th, 1905. The second brood specimens have a very light underside, while the apical markings in both sexes, and spots in the ♀, are well developed. Apparently not in Egypt. Occurs in Cyprus (Marsden).

PIERIS RAPE.—*VARIATION.*—*a. Size:* My largest specimen, a ♀ taken near Cairo at the beginning of April, 1903, measures 56mm. in expanse; my smallest, a ♂ taken near Alexandria on April 25th, 1904, 36mm. The latter specimen was taken among several decidedly large specimens averaging 50mm. On the whole, *P. rapae* appears to reach a larger average size than in Great Britain, none of my specimens, save that above mentioned, being less than 40mm. in expanse. *β. Markings of upperside:* Apical blotch varies in size, very indistinct in a ♀ taken at Alexandria in June; darkest in the large ♂s taken near Alexandria, April, 1904. *Spots on anterior wings:* Inclined in ♀ to be crescentic, or rather arrow-headed, pointing towards the outer margin. One ♀, Cairo, March, 1903, has the spots large and blotched, of a dark brownish-grey tinge, also noticeable on the apical spot. No absolutely unspotted specimens. *γ. Suffusion on costa and at base of posterior wings, etc.,* most marked in winter specimens, November, 1903, December, 1904, never very considerable. *δ. Colour of underside of posterior wings:* The ground colour is usually darker in spring and winter specimens, taken between November and March, than in others. A ♀ from Alexandria, June, 1904, shows a very pale yellow, indistinguishable by artificial light from white. The black powdering on the wing, on and just below the discoidal area, is most pronounced in winter and early spring, least in late spring and summer specimens, some of which show hardly a trace thereof. *ε. General:* I find two characteristics common to all my Egyptian specimens. (1) Absence of any pronounced shade of yellow on upperside of ♀s, cream being the nearest approach thereto. (2) Spot on inner margin of upperside of posterior wings broken, except in one instance, where it takes the form of a faint streak running down from the inner margin, and two where an almost microscopic point is all that can be seen.

RECORDS OF EMERGENCE.—*Cairo district:* March 13th, 1904, March, 27th, 1903, April, 1903; *Alexandria:* April 25th, 1904, June 5th, 1904, June 15th, 1903, December 24th-27th, 1903, January 10th-20th, 1903, September 21st, 1904; *Cairo:* January 20th-30th, 1903, May 1st, 1903, August 16th, 1903, November 1st-30th, 1903. *HABITAT.*—Everywhere in cultivated districts, occurring in the Delta and Middle Egypt in gardens, clover fields, etc., often in abundance. It is absent from the desert and apparently the Maryût Steppe district, and I have not seen it south of Luxor, where I noted an odd specimen in February, 1906.

PONTIA DAPLIDICE.—*Egypt:* I have only twice noted this insect in Egypt, *viz.*, one small, very worn ♀ near Cairo, early August, 1903; one ♂ seen at Port Said, June 13th, 1906. ♀ specimens taken by Guyot in the desert wadis, near Helwan, are smaller than Syrian ♀s. I understand that *P. daplidice* is very rare there; Mr. Marsden has not noted it from the Maryût country or the neighbourhood of Alexandria. *Syria:* This insect is decidedly common all over Syria—from sea-level to a considerable height in the mountains. *LOCALITIES AND DATES.*—*Beyrout district:* very common, July 7th-9th, 1904; *Ain Zahalta:* from mid-July, in 1904, abundant; *Jaffa:* May 9th, 1905; *Haiifa:* May 10th, 1905; *Beyrout:* May 12th, 1905; near *Damascus:* worn, mid-May, 1905; *Trans-Jordan Steppes* near Hedjaz Railway: end of

* I should say Asswân was as likely to be its southern limit as any place.

May, 1905. The males of the summer brood are, in my experience, decidedly small as a rule.

PYRAMEIS CARDUI.—*HABITAT*.—An insect with most catholic tastes, occurring often in large numbers, in town and country, in the desert wadis and the open Maryût Steppe, and in the most thickly cultivated parts of the Delta and the Upper Nile Valley. *DISTRIBUTION*.—Throughout the Nile Valley, from Alexandria to Assouan, at Khartoum (Graves); the Maryût Steppe (Marsden); desert wadis, near Helwan (Graves, Guyot); Sinai (Guyot); Port Said, etc., etc. *VARIATION*.—Fresh specimens frequently more flushed with rose on the anterior wings than British *P. cardui*. In size, they do not differ from British specimens, nor vary much *inter se*. No aberrations noted. *FOODPLANTS*.—Besides thistles, the larva occasionally devours cotton plant according to Mr. F. Willcocks, Entomologist to the Khedivial Agricultural Society. *RECORDS OF EMERGENCE, ETC.*—*Alexandria district*: June 15th, 1903 to June 29th, 1903, April 4th, 1904, September 1st-15th, 1904. *Cairo district*: Fresh, February 8th, 1903, March 22nd, 1903, April 5th, 1903, August 30th-end of September, 1903 (abundant), October 16th, 1903 (abundant), November 11th, 1904. *Port Said*: June 13th, 1905. *Maryût district*: Very common, May 5th, 1903, flying in swarms on low slopes of limestone above Sidi Merghab Village. *Khartoum*: Worn specimens, February 1st-5th, 1906, in gardens. May be seen, worn or fresh, in any month in the year, but in my experience is, if anything, most abundant in April and May, though I have also seen it in large numbers in June and in October. *DESERT LOCALITIES*.—Wadi Rished, near Helwan, very common on thistles, March 17th, 1905, and April 28th, 1905; Wadi Hof, April 22nd, 1903; Mokatam Plateau, October 21st, 1903.

PYRAMEIS ATALANTA.—*Habitat*: Occurs both at Alexandria and Cairo, but rarely in the latter locality, where I have only taken one specimen, though I have every year seen odd specimens in gardens in the European quarter. It is not very uncommon in gardens, etc., at Alexandria and Ramleh, especially in March, April, and May. *TIME OF APPEARANCE*.—*Cairo*: Near Cairo: January 28th, 1903; Ezbet el Nahhle, near Cairo, October 18th, 1905; Cairo—Kasrel Donbara quarter, seen February, 1904, and October, 1906. *Pyrameis atalanta* has been more common than usual at Cairo this winter, 1906-7 (Willcocks). *Alexandria*: May 7th, 1903; commencement of March to commencement of May, 1904.

PARARGE MEGÆRA.—*Syria*: *HABITAT*.—Occurs throughout the Lebanon region from sea-level to the summits. *VARIATION*.—Not very extensive as far as my limited experience goes. The dark band across the centre of the anterior wings is, in July specimens, more heavily powdered with light yellowish-brown scales than is the case with my British specimens, and the underside of the posterior wings has a more ashy-grey appearance. [*Cf.* Staudinger's description of var. *lyssa*, "alis posterioribus subtus cinerascensibus."] *TIME OF APPEARANCE*.—A few worn specimens seen high up (5000 feet) above Baalbek, May 29th, 1905, and one very worn on the Jebel Barouk above Ain Zahalta, June 3rd. It was fairly common between July 10th-30th, 1904, at Ain Zahalta, at altitudes of 3000ft.-4000ft., especially haunting dry grassy banks. Dog River, July 8th, 1904.

COENONYMPHA PAMPHILUS.—*HABITAT*.—*Syria*: Not uncommon at Ain Zahalta and other high localities in July. *VARIATION*: These specimens, taken at Ain Zahalta, appeared to be ab. et var. *thyrside*s, the ♂s having, as a rule, three or four, and never less than two, distinct small eye-spots on the upperside of the posterior wings. In no cases did the row of eye-spots on the underside of the posterior wings contain less than four spots with silvery white centres. In the ♀s the underside ground colour was usually ochreous, the eye-spots smaller, and often without distinguishable light centres. On the upperside the spots tended to be indistinct. Spring specimens (worn), taken at Ain Sofar (4800 feet) and Ain Zahalta, were indistinguishable from British in appearance. *TIME OF APPEARANCE, ETC.*—Ain Sofar, May 30th, 1905; Ain Zahalta, July 9th-30th, 1904.

BITHYS QUERCUS.—*Cyprus*: Mr. Marsden's collection contains large specimens up to 42mm. in expanse, taken on Mount Troodos, in late July. I have not seen this "hairstreak" in Syria or Egypt, and am sure it is not to be found in the latter country where there are no oaks.

LAMPIDES BOETICUS.—*Syria*: I have no Syrian ♀s. Males appear typical—found near broom, middle to end of July, 1904, Ain Zahalta—Lebanon. Beyrout, beginning of August and early July, 1904. Jaffa, May 9th, 1905. According to Marsden, common in Cyprus. *Egypt*.—*VARIATION*.—*a. Size*: A small form occurs here and there (and not uncommonly) in the summer and autumn months. My smallest specimen of this form, a ♂, did not exceed 19mm. in expanse. Two ♀s of this form, of 22mm. in expanse, are darker than the type, with less blue suffusion, and, in general, a duller aspect. This form was described as var. *aestiva* by Zeller. It appears to me to be simply the result of underfeeding—the final development of a half-starved larva, and would presumably be more common in bad Nile years. I have noted it in May, June, and November. In the ♀s of the Egyptian *boeticus*, the wing-expanse at times reaches 36mm. The largest ♂ I possess expands 33mm. *β*. The blue suffusion of the wings in the ♀ is, at times, very bright and pronounced, extending over the whitish submarginal and marginal bands of the posterior wings, which bands are, in the case of one of my ♀ specimens, of an almost milky-blue colour. Desert specimens of the ♀ are dull. All ♀s thus far taken at Maryût by me are suffused with very bright blue, as are many from Alexandria and the Cairo district. *FOODPLANTS*.—Peas, beans, lentils (wild and uncultivated), and various species of vetches. *TIME OF APPEARANCE*.—Almost as likely to be found in one month as in another, though commoner in late spring than at any other time. A few records may be given:—near *Cairo*: January 1st, 1903, February 25th, 1903, March 8th, 1903, May 1st, 1905, May 15th, 1906 (*aestiva*), November 23rd, 1903 (*aestiva*). *Port Said*: mid-June, 1905. *Alexandria*: July, 1903, August and September, 1904. *Maryût district*: February 21st, 1904. *Khartoum*: February 1st-5th, 1906. *HABITAT*.—Most common in bean and clover fields and gardens, but occurs on the Maryût Steppe, and in every desert wadi which contains a certain amount of vegetation. Probably the most abundant Egyptian butterfly. *LOCALITIES*.—Near Cairo and Alexandria, throughout the Delta, upper Egypt (Rothschild), Port Said, Sinai (Guyot), in Sudan—Khartoum (Graves), in desert wadis near Cairo, Helwan, etc.

CYANIRIS SEMIARGUS VAR. ANTIOSHENA. — *Syria*: This beautiful variety—if it be a variety—of *semiargus* occurred June 1st-4th, 1905, near the summit of the Jebel Barouk, above Ain Zahalta, at a height of about 6500ft. One worn ♂ was taken in company with *Polyommatus amanda* and *Cyaniris cyllarus*, in a mountain meadow some 1500ft. lower. *Antiochena* did not occur abundantly on the mountain, flying, for a “blue,” rather slowly over patches of grass and flowers in an open and stony cedar wood. Here five ♂s and 2 ♀s were taken. I have not found it elsewhere. Not seen in Egypt, and hardly likely to occur there.

Synopsis of the Orthoptera of Western Europe.

By MALCOLM BURR, B.A., F.L.S., F.Z.S., F.E.S.

(Continued from p. 39).

GENUS VI: THYREONOTUS, Serville.

In this genus, the pronotum is produced very strongly backwards over the abdomen, almost entirely covering the elytra. Two species are known.

TABLE OF SPECIES.

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| 1. Lower inner border of posterior femora with little spines; cerci ♂ with inner lobe ending in a point; subgenital lamina ♀ with hinder border roundly emarginate | 1. CORSICUS, Serv. |
| 1.1. Lower outer border of posterior femora armed with strong spines; cerci ♂ with the inner lobe rounded at the apex; subgenital lamina ♀ produced posteriorly into two strong spines.. .. . | 2. BIDENS, Bol. |

1. THYREONOTUS CORSICUS, Serville.

Yellowish-grey, marbled with chestnut; anterior femora of the male with lateral black bands; of female, testaceous. Length of body, 23mm. ♂, 24mm. ♀; of pronotum, 13mm. ♂, 12mm. ♀; of posterior femora, 30mm. ♂ and ♀; of ovipositor, 17mm. ♀.

Doubtfully recorded from Corsica by Serville. It occurs in France, but is very rare; it is recorded from Bastia, Amélie-les-Bains, and Narbonne. In Spain it is common; occurring along the coast from Cadiz to Barcelona. The variety *montanus*, Bol., which is smaller, and has longer elytra (length of body, 21mm. ♂, 26mm. ♀; of pronotum, 8mm.-9mm. ♂ and ♀; of posterior femora, 21mm.-23mm. ♂ and ♀; of ovipositor, 19mm. ♀), is peculiar to the mountainous regions of central Spain, having been recorded from Oña, Uclès, and Albarracin.

2. THYREONOTUS BIDENS, Bolivar.

Differs from *T. corsicus* in the form of the subgenital lamina of the female, which is produced into a pair of strong spines; also in the form of the cerci of the male and armature of the posterior femora, as indicated in the table. Length of body, 26mm. ♀; of pronotum, 10mm. ♀; of ovipositor, 20mm. ♀.

Spain; Cortijos de Malagon, Pozuelo de Calatrava, and Cordoba, in August and October. Also in Portugal, at Lisbon.

GENUS VII: ANTAXIUS, Brunner.

This is the last genus of the group with spined prosternum; it resembles *Thyreonotus* in its chief characters, but the pronotum is normal and truncate, so that the elytra are quite free. The discrimination of